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1. Recommendation: option G with enhancements or H

From the options, EPA has offered in their Proposed Plan, Alternative G with enhancements offers the best and most effective remediation of the Portland Harbor Superfund site. Except for complete removal as EPA listed in Alternative H, the Portland Harbor Community Advisory Group as representatives of the community with no financial interest or benefits recommends adoption of Alternative G with enhancements to protect health and the environment and ensure long term effectiveness. The details of the enhancements are described below in the section on Alternative G.

“The primary objective of this action is to address the contaminated sediment within the Site, thereby reducing exposure to concentrations in other media and significantly reducing human health and ecological risks at the Site to acceptable levels. However, remediation of the sediment in the Site would also reduce this ongoing source of contaminants to Multnomah Channel and the Columbia River.” PROPOSED PLAN-EPA

When the Proposed Plan says the overall objective is to merely meet “acceptable levels”, I disagree. Acceptable could mean simply tolerable as in the line of least resistance rather than a thorough and healthful approach.

“Regardless of cost or controversy, achieving the expected effect of remedial actions— improvements in the environment—is of primary importance.”[i]

2. Time frame for cleanup needs to be 100 yrs. Minimum

When the EPA suggests that the timeframe, the usual practice for estimating a remedy’s long-term cost is to assume a 30-year period of analysis but this is inadequate.

In the late 1970’s, Portland citizens believed that the Willamette had been finally cleaned up.. Since then, the city spent 14 years to correct that inadequate assumption by building the “Big Pipe” costing \$1.5 billion dollars. Thirty years is an inadequate time allotment unless repeating the Superfund process seems satisfactory.

In addition, with a minimum of 14 areas of capping to monitor and maintain, thirty years of sustenance seems very insufficient.

3. Bond assurance

The Portland Harbor CAG wants EPA to certify that “bond assurance” meet the requirements of Guidance on Financial Assurance in Superfund Agreements as found in--

<https://www.epa.gov/sites/production/files/2015-04/documents/fa-guide-2015.pdf>

5 Upland Source Control

- In their many presentations, DEQ explained their job was to focus on prevention of contamination from reaching the river. To ensure that the source control is actually met and continues in the future, remediation of the upland site contamination should be incorporated not just blocked from entering the river.

- DEQ “must meet or be more stringent in meeting remedial

requirements.” EPA An example would be sheet pile seawall at ARCO does not connect directly to the bottom of the river; therefore potential for leakage of oil based contamination is constant.

- As with dredging and capping remedies, MNR relies on contaminant source control; monitoring programs should include multiple lines of evidence that include chemical, physical, geotechnical, and biological metrics, and modelling in order to evaluate, with adequate certainty, the effectiveness of MNR at a site.

- Re-examine completeness of Early Actions or Hotspot Activities of DEQ.

Some cleanup actions have already occurred or were initiated at several areas within the Portland Harbor Superfund Site:

Terminal 4. Please complete activities on Terminal 4 without the CDF. Make it an area of habitat restoration where the sturgeon that winter there are protected and the wildlife can thrive and be healthy. Please include the public in restoration efforts.

NW Natural. Please remove all of the tar body and the associated chemicals at the GASCO site and do not just cap it. While it is one of the most devastating sites I believe NW Natural is a needed and important entity to the Portland community and deserves support. The EPA, other PRP's and citizens should make every effort to financially support its cleanup for the sake of the citizens, the river and the future. If it takes supporting grants, fundraisers and other activities, the GASCO site should be completely cleaned up but given support so the financial burden is not so overwhelming that it jeopardizes its valuable contribution to Portland.

Arkema. Arkema is and always has been another devastating site that needs the EPA's attention. While it has made little contribution to the citizens of Portland's welfare; the Arkema desperately needs all the effort, time and money that both DEQ and EPA can give it. If left unchecked, it will continue to overwhelm the health of the river for years.

U.S. Moorings. Please just test the efficacy of the work that has been started here. Please complete the necessary actions to ensure the sources are controlled completely.

Triangle Park. Please certify that the University of Portland completes its removal action and other procedures to properly clean up the site to protect human health and the students to be using it in the future. The four main components to the completed removal action included institutional controls, groundwater monitoring, excavation, and capping.

Gasco. NW Natural, Siltronic Corporation and EPA signed an AOC for a Removal Action in September 2009. NW Natural and Siltronic are conducting site characterization and design evaluations for the area offshore of their two facilities. They have also agreed to perform further characterization, studies, analysis and preliminary design for the final remedy at the Gasco Sediment site. The studies and other work under the agreement were incorporated into the Portland Harbor RI/FS. Please confirm that the site excavations and removal of contamination are complete and not just capped or covered up.

River Mile 11E Project Area. As the site containing one of the highest levels of PCB's this site should be thoroughly and completely excavated and the contents removed, place on barges and carried to Roosevelt Facility in Goldendale Washington. This and Swan Island has potential for habitat restoration and future human use.

McCormick and Baxter Superfund Site. Even though this site has been somewhat completed; parts of it needs attention because it is still part of the Superfund site riverbank. It Gould Superfund Site. A remedy addressing upland soils at this secondary lead smelter and battery disposal site was completed in September 2000 and was deleted from the NPL in 2002. Five year reviews are conducted since waste is left in place. The next five year review will be conducted in 2017.

BP Arco Bulk Terminal. A sediment removal action of the nearshore area adjacent to the BP Arco Bulk Terminal was conducted in 2007-2008 under DEQ oversight. Approximately 12,300 cy of petroleum-contaminated soil and sediment were removed and disposed off-site at a permitted facility. The excavated area was backfilled with clean fill and a steel sheet-pile seawall was installed along the entire river bank of the BP Arco Bulk Terminal property.

When the remedial design sampling is produced, it needs to include all shoreline; not just the previously examined 20,000 lineal yards but needs to address all 30,000 lineal yards to ensure all contamination is included.

## 6. A CASE FOR EXTERNALITIES

Definition-A side effect or consequence of an industrial or commercial activity that affects other parties without this being reflected in the cost of the goods or services involved, such as the pesticide affecting pollination of surrounding crops by bees kept for honey.

Another example of an externality is the case for continuing to utilize extensive shipping via trucks rather than rail or other less contaminating method to transport. For industry's sake, it may be faster, cheaper and more expeditious but in the long run what does it do to the wildlife and human health condition? How much more asthma does it cause to adjacent neighborhoods to prove that diesel exhaust from trucks are a detriment to humans? We do know the cost of healthcare today and that price could be reduced by prevention of the causes from being pervasive in our river, air and especially sediment. The true human and animal health costs are not fully known yet. But they are part of the externality.

The most important externality that the EPA omits from its Proposed Plan are the externalities from not doing a proper and thorough cleanup in Portland Harbor. In the shortterm:

- Industry may be able to maintain an adequate economy
- Industry may gain substantial profits to give to their shareholders in the 1%
- There may be high-paying dirty unhealthy jobs;

But the cost of health for the infected Osprey, Eagles and Peregrine Falcons needs to be paid for and entered into the future economies of those who are holding the NPDES Permits. It is they who continue to make the birds and people ill.

In the long run the negative health effects need to be part of the cost of doing business for all of industry who continues to pollute the river. The pittance that those industries pay is but a pittance of the real health costs and hospital charges for the those affected by the cancer-causing chemicals discharged into the river. The Affordable Care Act can only afford to cover part of the consequences of the ill-health caused by the externalities of the Portland Harbor Superfund. The industries who cause the ill-health yet made the profit will long have disappeared from the map.

When science finally discovers the full effects of living next to a river full of PCB's; how much will it cost us to clean it up after the generations after us have suffered the health effects and industry has made their money and faded off into their comfortable world.

## 7.Environmental justice

Long has the EPA been in denial about the Portland Harbor Superfund being adjacent to environmental justice community. Look at the census that communicates that in the area next to the river has more citizens of color, various ethnic origins and well as below the poverty-level or houseless and live on the banks of the Portland Harbor Superfund. Before the “sweeps”

if the blue tarps and tents were counted closest to the river the number is exceedingly high. The LWG and many others took citizens down the Willamette to see the superfund site and there hundreds of houseless people living in the riparian area. Please allow some financing to find housing for these individuals and families other than next to the river during the cleanup construction. Not only will it be dangerous for their existence; it will be shameful just to ignore their plight and just start plowing up the very ground they live on.

MNR: THE PROBLEMS WITH NATURAL RECOVERY After investigating[ii], EPA and Lower Willamette Group found that PCB’s are by far the most hazardous and the most widespread problem of the chemicals found to be in Portland Harbor and present for forty years. For over fifty years, dioxins in the form of Agent Orange and other herbicides were discharged and remain in the river. PAH’s and other oil based chemicals have been in Portland Harbor for over eighty years. It was in the 1930’s that the gas prepared coke was poured into Portland Harbor. The investigating and testing has taken place in the last twenty years demonstrating natural recovery has done little or nothing to remove them or prevent access to them therefore sufficient removal as proposed in the Alternative G should first and foremost be considered the best cleanup plan.

These chemicals, left in the river continue pose health threats to humans and wildlife continuing into the future for generations. In every level or Alternative suggested by the EPA methods such as capping allows the contamination to be left in the river.

#### THE PROBLEM WITH CAPPING

In the EPA’S recommendations and advocacy for Capping, they state that it is inappropriate at “industrial megasites”[iii] With ten miles of industrial waste, the Portland Harbor certainly meets the definition.

#### Why New Technologies

Collecting, learning from, and incorporating new information into practice is the only avenue to improving the effectiveness of remedial operations.

Regardless of cost or controversy, achieving the expected effect of remedial actions— improvements in the environment—is of primary importance.

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[i] <https://semspub.epa.gov/work/HQ/175410.pdf>

[ii] Portland Harbor Remedial Investigation

DOI: <http://dx.doi.org/10.1065/jss2007.10.256>

[iii] DOI: <http://dx.doi.org/10.1065/jss2007.10.256>

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Remediation: U.S. Focus on Capping and Monitored Natural Recovery. Fourth International Battelle Conference on Remediation of Contaminated Sediments. J Soils Sediments, 7

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